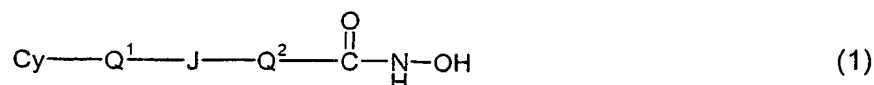


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CLAIMS

1. A compound of the formula:



wherein:

J is a linking functional group and is independently:

-C(=O)- or -O-C(=O)- or -C(=O)-O-;

Cy is a cyclyl group and is independently:

C<sub>3-20</sub>carbocyclyl, C<sub>3-20</sub>heterocyclyl, or C<sub>5-20</sub>aryl;

and is optionally substituted;

Q<sup>1</sup> is a cyclyl leader group, and is independently a divalent bidentate group obtained by removing two hydrogen atoms from a ring carbon atom of a saturated monocyclic hydrocarbon having from 4 to 7 ring atoms, or by removing two hydrogen atoms from a ring carbon atom of saturated monocyclic heterocyclic compound having from 4 to 7 ring atoms including 1 nitrogen ring atom or 1 oxygen ring atom; and is optionally substituted;

Q<sup>2</sup> is an acid leader group, and is independently:

C<sub>1-8</sub>alkylene;

and is optionally substituted;

or:

Q<sup>2</sup> is an acid leader group, and is independently:

C<sub>5-20</sub>arylene;

C<sub>5-20</sub>arylene-C<sub>1-7</sub>alkylene;

C<sub>1-7</sub>alkylene-C<sub>5-20</sub>arylene; or,

C<sub>1-7</sub>alkylene-C<sub>5-20</sub>arylene-C<sub>1-7</sub>alkylene;

and is optionally substituted;

and pharmaceutically acceptable salts, solvates, amides, esters, ethers, chemically protected forms, and prodrugs thereof.

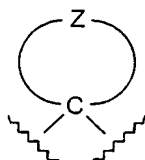
2. A compound according to claim 1, wherein J is -O-C(=O)- or -C(=O)-O-.

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3. A compound according to claim 1, wherein J is -O-C(=O)-.
4. A compound according to claim 1, wherein J is -C(=O)-O-.
5. A compound according to claim 1, wherein J is -C(=O)-.

\* \* \*

6. A compound according to any one of claims 1 to 6, wherein Q<sup>1</sup> is independently a group of the formula:



wherein:

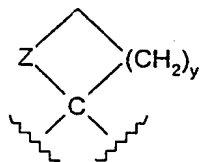
the ring independently has from 4 to 7 ring atoms;

Z is independently -CH<sub>2</sub>-, -N(R<sup>N</sup>)- or -O-;

R<sup>N</sup>, if present, is independently -H, C<sub>1-7</sub>alkyl (including, e.g., C<sub>5-20</sub>aryl-C<sub>1-7</sub>alkyl), C<sub>3-20</sub>heterocyclyl, or C<sub>5-20</sub>aryl; and

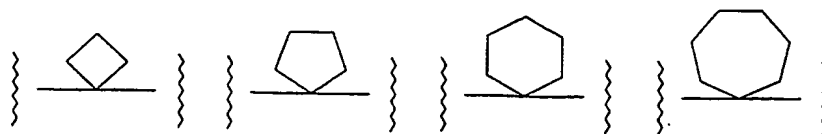
Q<sup>1</sup> is optionally further substituted.

7. A compound according to claim 6, wherein Q<sup>1</sup> is independently a group of the formula:

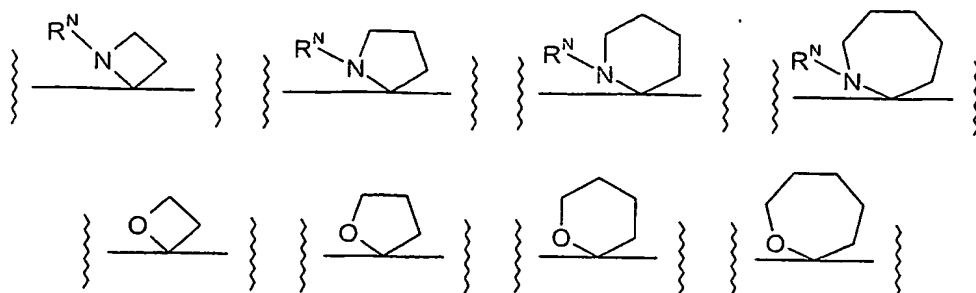


wherein y is independently 1, 2, 3, or 4.

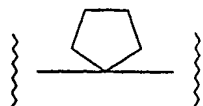
8. A compound according to claim 7, wherein Q<sup>1</sup> is independently selected from:



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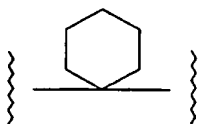


9. A compound according to claim 8, wherein  $Q^1$  is independently:



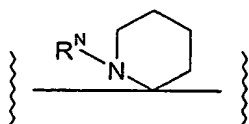
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10. A compound according to claim 8, wherein  $Q^1$  is independently:



10

11. A compound according to claim 8, wherein  $Q^1$  is independently:



\* \* \*

12. A compound according to any one of claims 6 to 11, wherein  $R^N$ , if present, is independently selected from: -H, -Me, -Et, -Ph, and -CH<sub>2</sub>-Ph.

13. A compound according to any one of claims 6 to 11, wherein  $R^N$ , if present, is independently -H.

20

\* \* \*

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14. A compound according to any one of claims 1 to 13, wherein substituents on Q<sup>1</sup>, if present, are independently selected from: -F, -Cl, -Br, -I, -OH, -OMe, -OEt, -O(iPr), -Ph, -C(=O)Me, -NH<sub>2</sub>, -NMe<sub>2</sub>, -NEt<sub>2</sub>, morpholino, -CONH<sub>2</sub>, -CONMe<sub>2</sub>, -NHCOMe, and =O; and wherein, if a substituent is on an arylene group (e.g., phenylene), it may additionally be selected from: -Me, -Et, -iPr, -tBu, -CF<sub>3</sub>.

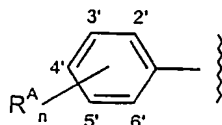
\* \* \*

15. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>3-20</sub>carbocyclyl; and is optionally substituted.
16. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>3-20</sub>heterocyclyl; and is optionally substituted.
17. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>5-20</sub>aryl; and is optionally substituted.
18. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>5-20</sub>carboaryl or C<sub>5-20</sub>heteroaryl; and is optionally substituted.
19. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>5-20</sub>aryl derived from one of the following: benzene, pyridine, furan, indole, pyrrole, imidazole, naphthalene, quinoline, benzimidazole, benzothiofuran, fluorene, acridine, and carbazole; and is optionally substituted.
20. A compound according to any one of claims 1 to 14, wherein Cy is independently C<sub>5-20</sub>aryl derived from benzene and is optionally substituted.

\* \* \*

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21. A compound according to any one of claims 1 to 14, wherein Cy is independently an optionally substituted phenyl group of the formula:



wherein n is independently an integer from 0 to 5, and each  $R^A$  is independently a substituent.

22. A compound according to claim 21, wherein n is 0.
23. A compound according to claim 21, wherein n is 1, and the  $R^A$  group is in the 4'-position.
24. A compound according to claim 21, wherein n is 2, and one  $R^A$  group is in the 4'-position, and the other  $R^A$  group is in the 2'-position.
25. A compound according to claim 21, wherein n is 2, and one  $R^A$  group is in the 4'-position, and the other  $R^A$  group is in the 3'-position.

\* \* \*

26. A compound according to any one of claims 1 to 25, wherein each of the substituents on Cy, if present, is independently selected from:

- (1) ester;
- (2) amido;
- (3) acyl;
- (4) halo;
- (5) hydroxy;
- (6) ether;
- (7)  $C_{1-7}$ alkyl, including substituted  $C_{1-7}$ alkyl;
- (8)  $C_{5-20}$ aryl, including substituted  $C_{5-20}$ aryl;
- (9) sulfonyl;
- (10) sulfonamido.

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27. A compound according to any one of claims 1 to 25, wherein each of the substituents on Cy, if present, is independently selected from:
- (1)  $-C(=O)OR^1$ , wherein  $R^1$  is independently  $C_{1-7}$ alkyl as defined in (7);
  - (2)  $-C(=O)NR^2R^3$ , wherein each of  $R^2$  and  $R^3$  is independently -H or  $C_{1-7}$ alkyl as defined in (7);
  - (3)  $-C(=O)R^4$ , wherein  $R^4$  is independently  $C_{1-7}$ alkyl as defined in (7) or  $C_{5-20}$ aryl as defined in (8);
  - (4) -F, -Cl, -Br, -I;
  - (5) -OH;
  - (6)  $-OR^5$ , wherein  $R^5$  is independently  $C_{1-7}$ alkyl as defined in (7) or  $C_{5-20}$ aryl as defined in (8);
  - (7)  $C_{1-7}$ alkyl, including substituted  $C_{1-7}$ alkyl, e.g.,
    - halo- $C_{1-7}$ alkyl;
    - amino- $C_{1-7}$ alkyl (e.g.,  $-(CH_2)_w$ -amino);
    - carboxy- $C_{1-7}$ alkyl (e.g.,  $-(CH_2)_w$ -COOH);
    - hydroxy- $C_{1-7}$ alkyl (e.g.,  $-(CH_2)_w$ -OH);
    - $C_{1-7}$ alkoxy- $C_{1-7}$ alkyl (e.g.,  $-(CH_2)_w$ -O- $C_{1-7}$ alkyl);
    - $C_{5-20}$ aryl- $C_{1-7}$ alkyl;
    - wherein w is 1, 2, 3, or 4;
  - (8)  $C_{5-20}$ aryl, including substituted  $C_{5-20}$ aryl;
  - (9)  $-SO_2R^7$ , wherein  $R^7$  is independently  $C_{1-7}$ alkyl as defined in (7) or  $C_{5-20}$ aryl as defined in (8);
  - (10)  $-SO_2NR^8R^9$ , wherein each of  $R^8$  and  $R^9$  is independently -H or  $C_{1-7}$ alkyl as defined in (7).
28. A compound according to any one of claims 1 to 25, wherein each of the substituents on Cy, if present, is independently selected from:
- (1)  $-C(=O)OMe$ ,  $-C(=O)OEt$ ,  $-C(=O)OPr$ ,  $-C(=O)OiPr$ ,  $-C(=O)OnBu$ ,  $-C(=O)OsBu$ ,  $-C(=O)OiBu$ ,  $-C(=O)OtBu$ ,  $-C(=O)OnPe$ ;
  - $-C(=O)OCH_2CH_2OH$ ,  $-C(=O)OCH_2CH_2OMe$ ,  $-C(=O)OCH_2CH_2OEt$ ;
  - (2)  $-(C=O)NH_2$ ,  $-(C=O)NMe_2$ ,  $-(C=O)NEt_2$ ,  $-(C=O)NiPr_2$ ,  $-(C=O)N(CH_2CH_2OH)_2$ ;
  - (3)  $-(C=O)Me$ ,  $-(C=O)Et$ ,  $-(C=O)-cHex$ ,  $-(C=O)Ph$ ;
  - (4) -F, -Cl, -Br, -I;
  - (5) -OH;
  - (6)  $-OMe$ ,  $-OEt$ ,  $-OiPr$ ,  $-OtBu$ ,  $-OPh$ ;
  - $-OCF_3$ ,  $-OCH_2CF_3$ ;

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-OCH<sub>2</sub>CH<sub>2</sub>OH, -OCH<sub>2</sub>CH<sub>2</sub>OMe, -OCH<sub>2</sub>CH<sub>2</sub>OEt;  
 -OCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, -OCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>, -OCH<sub>2</sub>CH<sub>2</sub>N(iPr)<sub>2</sub>;  
 -OPh, -OPh-Me, -OPh-OH, -OPh-OMe, O-Ph-F, -OPh-Cl, -OPh-Br, -OPh-I;  
 (7) -Me, -Et, -nPr, -iPr, -nBu, -iBu, -sBu, -tBu, -nPe;  
 5 -CF<sub>3</sub>, -CH<sub>2</sub>CF<sub>3</sub>;  
 -CH<sub>2</sub>CH<sub>2</sub>OH, -CH<sub>2</sub>CH<sub>2</sub>OMe, -CH<sub>2</sub>CH<sub>2</sub>OEt;  
 -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, -CH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>, -CH<sub>2</sub>CH<sub>2</sub>N(iPr)<sub>2</sub>;  
 -CH<sub>2</sub>-Ph;  
 (8) -Ph, -Ph-Me, -Ph-OH, -Ph-OMe, -Ph-F, -Ph-Cl, -Ph-Br, -Ph-I;  
 10 (9) -SO<sub>2</sub>Me, -SO<sub>2</sub>Et, -SO<sub>2</sub>Ph;  
 (10) -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NMe<sub>2</sub>, -SO<sub>2</sub>NEt<sub>2</sub>.

29. A compound according to any one of claims 1 to 25, wherein each of the substituents on Cy, if present, is independently selected from:

15 -C(=O)OMe, -OMe, -C(=O)Me, -SO<sub>2</sub>Me, -SO<sub>2</sub>NMe<sub>2</sub>, -C(=O)NH<sub>2</sub>, -OCF<sub>3</sub>, and  
 -CH<sub>2</sub>CH<sub>2</sub>OH.

\* \* \*

20 30. A compound according to any one of claims 1 to 29, wherein the acid leader  
 group, Q<sup>2</sup>, is independently:  
 C<sub>5-20</sub>arylene;  
 and is optionally substituted.

25 31. A compound according to any one of claims 1 to 29, wherein Q<sup>2</sup> is independently  
 C<sub>5-6</sub>arylene; and is optionally substituted.

32. A compound according to any one of claims 1 to 29, wherein Q<sup>2</sup> is independently  
 phenylene; and is optionally substituted.

30 33. A compound according to claim 32, wherein the phenylene linkage is meta or  
 para.

34. A compound according to claim 32, wherein the phenylene linkage is meta.

35 35. A compound according to claim 32, wherein the phenylene linkage is para.

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36. A compound according to any one of claims 30 to 35, wherein  $Q^2$  is independently unsubstituted.

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\* \* \*

37. A compound according to any one of claims 1 to 29, wherein the acid leader group,  $Q^2$ , is independently:

$C_{1-8}$ alkylene;

10

and is optionally substituted.

38. A compound according to any one of claims 1 to 29, wherein  $Q^2$  is independently:

(a) a saturated  $C_{1-7}$ alkylene group; or:

(b) a partially unsaturated  $C_{2-7}$ alkylene group; or:

15

(c) an aliphatic  $C_{1-7}$ alkylene group; or:

(d) a linear  $C_{1-7}$ alkylene group; or:

(e) a branched  $C_{2-7}$ alkylene group; or:

(f) a saturated aliphatic  $C_{1-7}$ alkylene group; or:

20

(g) a saturated linear  $C_{1-7}$ alkylene group; or:

(h) a saturated branched  $C_{2-7}$ alkylene group; or:

(i) a partially unsaturated aliphatic  $C_{2-7}$ alkylene group; or:

(j) a partially unsaturated linear  $C_{2-7}$ alkylene group; or:

(k) a partially unsaturated branched  $C_{2-7}$ alkylene group;

and is optionally substituted.

25

39. A compound according to any one of claims 1 to 29, wherein  $Q^2$  is independently selected from:

$-(CH_2)_5-$ ;  $-(CH_2)_6-$ ;  $-(CH_2)_7-$ ; and  $-(CH_2)_8-$ .

30

\* \* \*

40. A compound according to any one of claims 1 to 29, wherein  $Q^2$  is independently:

$C_{5-20}$ arylene- $C_{1-7}$ alkylene;

$C_{1-7}$ alkylene- $C_{5-20}$ arylene; or,

35

$C_{1-7}$ alkylene- $C_{5-20}$ arylene- $C_{1-7}$ alkylene;

and is optionally substituted.



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41. A compound according to any one of claims 1 to 29, wherein Q<sup>2</sup> is independently:  
C<sub>5-6</sub>arylene-C<sub>1-7</sub>alkylene;  
C<sub>1-7</sub>alkylene-C<sub>5-6</sub>arylene; or,  
5 C<sub>1-7</sub>alkylene-C<sub>5-6</sub>arylene-C<sub>1-7</sub>alkylene;  
and is optionally substituted.

42. A compound according to any one of claims 1 to 29, wherein Q<sup>2</sup> is independently:  
phenylene-C<sub>1-7</sub>alkylene;  
10 C<sub>1-7</sub>alkylene-phenylene; or,  
C<sub>1-7</sub>alkylene-phenylene-C<sub>1-7</sub>alkylene;  
and is optionally substituted.

\* \* \*

43. A compound according to any one of claims 1 to 42, wherein Q<sup>2</sup> independently  
has a backbone of from 5 to 6 atoms.

\* \* \*

44. A compound according to any one of claims 1 to 43, wherein each of the  
substituents on Q<sup>2</sup>, if present, is independently selected from:  
halo, hydroxy, ether (e.g., C<sub>1-7</sub>alkoxy), C<sub>5-20</sub>aryl, acyl, amino, amido,  
acylamido, nitro, and oxo; and wherein, if a substituent is on an arylene group  
25 (e.g., phenylene), it may additionally be selected from: C<sub>1-7</sub>alkyl, including  
substituted C<sub>1-7</sub>alkyl.

45. A compound according to any one of claims 1 to 43, wherein each of the  
substituents on Q<sup>2</sup>, if present, is independently selected from: -F, -Cl, -Br, -I, -OH, -  
30 OMe, -OEt, -O(iPr), -Ph, -C(=O)Me, -NH<sub>2</sub>, -NMe<sub>2</sub>, -NEt<sub>2</sub>, morpholino, -CONH<sub>2</sub>,  
-CONMe<sub>2</sub>, -NHCOMe, -NO<sub>2</sub>, and =O; and wherein, if a substituent is on an arylene  
group (e.g., phenylene), it may additionally be selected from: -Me, -Et, -iPr, -tBu, -  
CF<sub>3</sub>.

\* \* \*

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46. A compound according to claim 1, selected from the following compounds, and pharmaceutically acceptable salts, solvates, amides, esters, ethers, chemically protected forms, and prodrugs thereof:

PX118478,

PX118479,

PX118480,

PX119101,

PX118925,

PX118926,

PX118959,

PX118966,

PX119058,

PX119059,

PX119061,

PX119062,

PX119064,

PX119065,

PX119084,

PX119100,

PX119063,

PX119085,

PX119086,

PX119102, and

PX119103.

\* \* \*

47. A composition comprising a compound as defined in any one of claims 1 to 46 and a pharmaceutically acceptable carrier.

48. A compound as defined in any one of claims 1 to 46 for use in a method of treatment of the human or animal body by therapy.

49. A compound as defined in any one of claims 1 to 46 for use in a method of treatment of a condition mediated by HDAC of the human or animal body by therapy.

50. A compound as defined in any one of claims 1 to 46 for use in a method of treatment of a proliferative condition of the human or animal body by therapy.

5 51. A compound as defined in any one of claims 1 to 46 for use in a method of treatment of cancer of the human or animal body by therapy.

52. A compound as defined in any one of claims 1 to 46 for use in a method of treatment of psoriasis of the human or animal body by therapy.

10

53. Use of a compound as defined in any one of claims 1 to 46 for the manufacture of a medicament for use in the treatment of a condition mediated by HDAC.

15

54. Use of a compound as defined in any one of claims 1 to 46 for the manufacture of a medicament for use in the treatment of a proliferative condition.

55. Use of a compound as defined in any one of claims 1 to 46 for the manufacture of a medicament for use in the treatment of cancer.

20

56. Use of a compound as defined in any one of claims 1 to 46 for the manufacture of a medicament for use in the treatment of psoriasis.

57. A method inhibiting HDAC in a cell comprising said cell with an effective amount of a compound as defined in any one of claims 1 to 46.

25

58. A method for the treatment of a condition mediated by HDAC comprising administering to a subject suffering from a condition mediated by HDAC a therapeutically-effective amount of a compound as defined in any one of claims 1 to 46.

30

59. A method for the treatment of a proliferative condition comprising administering to a subject suffering from a proliferative condition a therapeutically-effective amount of a compound as defined in any one of claims 1 to 46.

60. A method for the treatment of cancer comprising administering to a subject suffering from cancer a therapeutically-effective amount of a compound as defined in any one of claims 1 to 46.
- 5 61. A method for the treatment of psoriasis comprising administering to a subject suffering from psoriasis a therapeutically-effective amount of a compound as defined in any one of claims 1 to 46.

\* \* \*